

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Canceled)
2. (Previously Presented) A camera comprising:
 - an image-capturing element that captures a subject image through a photographic lens;
 - a first filter device that removes a frequency component equal to or lower than a first frequency from image-capturing signals obtained at pixels corresponding to a focus area of the image-capturing element;
 - a second filter device that removes from the image-capturing signals a frequency component equal to or lower than a second frequency which is higher than the first frequency;
 - a lens drive signal generation device that generates a lens drive signal used to move a focus lens;
 - an evaluation value calculation device that calculates integrating values of first image-capturing signals from which the frequency component has been removed at the first filter device and integrating values of second image-capturing signals from which the frequency component has been removed at the second filter device, each in correspondence to a predefined position of the focus lens;
 - a lens position calculation device that calculates a focus match lens position based upon one of a set of the integrating values of the first image-capturing signals and a set of the integrating values of the second image-capturing signals calculated by the evaluation value calculation device; and

a determination device that makes a true/false decision with regard to a focus match position, calculated by the lens position calculation device, based upon a change manifested by the integrating values of the first image-capturing signals and a change manifested by the integrating values of the second image-capturing signals between predefined positions taken by the focus lens, wherein:

the determination device determines that the focus match position, calculated by the lens position calculation device is a true focus match position when a ratio between;

(a) the change manifested by the integrating values of the first image-capturing signals between a first lens position corresponding to a largest value among the integrating values of the first image-capturing signals and a second lens position next to the first lens position and

(b) the change manifested by the integrating values of the second image-capturing signals between the first lens position and the second lens position is equal to or greater than a preset determination threshold value.

3. (Previously Presented) A camera comprising:

an image-capturing element that captures a subject image through a photographic lens;

a first filter device that removes a frequency component equal to or lower than a first frequency from image-capturing signals obtained at pixels corresponding to a focus area of the image-capturing element;

a second filter device that removes from the image-capturing signals a frequency component equal to or lower than a second frequency which is higher than the first frequency;

a lens drive signal generation device that generates a lens drive signal used to move a focus lens;

an evaluation value calculation device that calculates integrating values of first image-capturing signals from which the frequency component has been removed at the first filter device and integrating values of second image-capturing signals from which the frequency component has been removed at the second filter device, each in correspondence to a predefined position of the focus lens;

a lens position calculation device that calculates a focus match lens position based upon one of a set of the integrating values of the first image-capturing signals and a set of the integrating values of the second image-capturing signals calculated by the evaluation value calculation device; and

a determination device that makes a true/false decision with regard to a focus match position, calculated by the lens position calculation device, based upon a change manifested by the integrating values of the first image-capturing signals and a change manifested by the integrating values of the second image-capturing signals between predefined positions taken by the focus lens, wherein:

the determination device determines that the focus match position calculated by the lens position calculation device is a true focus match position when (A) the change manifested by the integrating values of the first image-capturing signals between a first lens position corresponding to a largest value among the integrating values of the first image-capturing signals and a second lens position next to the first lens position indicates a value equal to or greater than a predetermined value and (B) a ratio of the change manifested by the integrating values of the first image-capturing signals between the first lens position and the second lens position and the change manifested by the integrating values of the second image-capturing signals between the first lens position and the second lens position is equal to or greater than a preset determination threshold value.

4. (Previously Presented) A camera comprising:

an image-capturing element that captures a subject image through a photographic lens;

a first filter device that removes a frequency component equal to or lower than a first frequency from image-capturing signals obtained at pixels corresponding to a focus area of the image-capturing element;

a second filter device that removes from the image-capturing signals a frequency component equal to or lower than a second frequency which is higher than the first frequency;

a lens drive signal generation device that generates a lens drive signal used to move a focus lens;

an evaluation value calculation device that calculates integrating values of first image-capturing signals from which the frequency component has been removed at the first filter device and integrating values of second image-capturing signals from which the frequency component has been removed at the second filter device, each in correspondence to a predefined position of the focus lens;

a lens position calculation device that calculates a focus match lens position based upon one of a set of the integrating values of the first image-capturing signals and a set of the integrating values of the second image-capturing signals calculated by the evaluation value calculation device; and

a determination device that makes a true/false decision with regard to a focus match position, calculated by the lens position calculation device, based upon a change manifested by the integrating values of the first image-capturing signals and a change manifested by the integrating values of the second image-capturing signals between predefined positions taken by the focus lens, wherein:

the determination device judges that the focus match position calculated by the lens position calculation device is a false focus match position when (1) the change manifested by the integrating values of the first image-capturing signals between a first lens position corresponding to a largest value among the integrating values of the first image-capturing signals and a second lens position next to the first lens position indicates a value smaller than a first predetermined value and (2) the change manifested by the integrating values of the first image-capturing signals between the second lens position and a third lens position next to the second lens position indicates a value smaller than a second predetermined value which is greater than the first predetermined value.

5. (Original) A camera according to claim 2, wherein:

the first lens position corresponds to a closeup end of a range over which the focus lens is allowed to move.

6. (Original) A camera according to claim 3, wherein:

the first lens position corresponds to a closeup end of a range over which the focus lens is allowed to move.

7. (Original) A camera according to claim 4, wherein:

the first lens position corresponds to a closeup end of a range over which the focus lens is allowed to move.

8. (New) A camera comprising:

an image pickup device that captures a subject image through a photographic lens;

a first filter device that removes a frequency component equal to or lower than a first frequency from image-capturing signals obtained at pixels corresponding to a focus area of the image pickup device;

a second filter device that removes from the image-capturing signals a frequency component equal to or lower than a second frequency which is higher than the first frequency;

a drive circuit that generates a lens drive signal used to move a focus lens;

a first calculator that calculates integrating values of first image-capturing signals from which the frequency component has been removed at the first filter device and integrating values of second image-capturing signals from which the frequency component has been removed at the second filter device, each in correspondence to a predefined position of the focus lens;

a second calculator that calculates a focus match lens position based upon one of a set of the integrating values of the first image-capturing signals and a set of the integrating values of the second image-capturing signals calculated by the first calculator; and

a controller that makes a true/false decision with regard to a focus match position, calculated by the second calculator, based upon a change manifested by the integrating values of the first image-capturing signals and a change manifested by the integrating values of the second image-capturing signals between predefined positions taken by the focus lens, wherein:

the controller determines that the focus match position, calculated by the second calculator is a true focus match position when a ratio between; (a) the change manifested by the integrating values of the first image-capturing signals between a first lens position corresponding to a largest value among the integrating values of the first image-capturing signals and a second lens position next to the first lens position and (b) the change manifested by the integrating values of the second image-capturing signals between the first lens position and the second lens position is equal to or greater than a preset determination threshold value.

9. (New) A camera comprising:

an image pickup device that captures a subject image through a photographic lens;

a first filter device that removes a frequency component equal to or lower than a first frequency from image-capturing signals obtained at pixels corresponding to a focus area of the image pickup device;

a second filter device that removes from the image-capturing signals a frequency component equal to or lower than a second frequency which is higher than the first frequency;

a drive circuit that generates a lens drive signal used to move a focus lens;

a first calculator that calculates integrating values of first image-capturing signals from which the frequency component has been removed at the first filter device and integrating values of second image-capturing signals from which the frequency component has been removed at the second filter device, each in correspondence to a predefined position of the focus lens;

a second calculator that calculates a focus match lens position based upon one of a set of the integrating values of the first image-capturing signals and a set of the integrating values of the second image-capturing signals calculated by the first calculator; and

a controller that makes a true/false decision with regard to a focus match position, calculated by the second calculator, based upon a change manifested by the integrating values of the first image-capturing signals and a change manifested by the integrating values of the second image-capturing signals between predefined positions taken by the focus lens, wherein:

the controller determines that the focus match position calculated by the lens position calculation device is a true focus match position when (A) the change manifested by

the integrating values of the first image-capturing signals between a first lens position corresponding to a largest value among the integrating values of the first image-capturing signals and a second lens position next to the first lens position indicates a value equal to or greater than a predetermined value and (B) a ratio of the change manifested by the integrating values of the first image-capturing signals between the first lens position and the second lens position and the change manifested by the integrating values of the second image-capturing signals between the first lens position and the second lens position is equal to or greater than a preset determination threshold value.

10. (New) A camera comprising:

an image pickup device that captures a subject image through a photographic lens;

a first filter device that removes a frequency component equal to or lower than a first frequency from image-capturing signals obtained at pixels corresponding to a focus area of the image pickup device;

a second filter device that removes from the image-capturing signals a frequency component equal to or lower than a second frequency which is higher than the first frequency;

a drive circuit that generates a lens drive signal used to move a focus lens;

a first calculator that calculates integrating values of first image-capturing signals from which the frequency component has been removed at the first filter device and integrating values of second image-capturing signals from which the frequency component has been removed at the second filter device, each in correspondence to a predefined position of the focus lens;

a second calculator that calculates a focus match lens position based upon one of a set of the integrating values of the first image-capturing signals and a set of the integrating values of the second image-capturing signals calculated by the first calculator; and

a controller that makes a true/false decision with regard to a focus match position, calculated by the second calculator, based upon a change manifested by the integrating values of the first image-capturing signals and a change manifested by the integrating values of the second image-capturing signals between predefined positions taken by the focus lens, wherein:

the controller judges that the focus match position calculated by the second calculator is a false focus match position when (1) the change manifested by the integrating values of the first image-capturing signals between a first lens position corresponding to a largest value among the integrating values of the first image-capturing signals and a second lens position next to the first lens position indicates a value smaller than a first predetermined value and (2) the change manifested by the integrating values of the first image-capturing signals between the second lens position and a third lens position next to the second lens position indicates a value smaller than a second predetermined value which is greater than the first predetermined value.

11. (New) A camera according to claim 8, wherein:

the first lens position corresponds to a closeup end of a range over which the focus lens is allowed to move.

12. (New) A camera according to claim 9, wherein:

the first lens position corresponds to a closeup end of a range over which the focus lens is allowed to move.

13. (New) A camera according to claim 10, wherein:

the first lens position corresponds to a closeup end of a range over which the focus lens is allowed to move.

14. (New) A method for capturing an image comprising:
 - capturing a subject image through a photographic lens;
 - removing a frequency component equal to or lower than a first frequency from image-capturing signals obtained at pixels corresponding to a focus area;
 - removing from the image-capturing signals a frequency component equal to or lower than a second frequency which is higher than the first frequency;
 - generating a lens drive signal from moving a focus lens;
 - calculating integrating values of first image-capturing signals from which the frequency component has been removed and integrating values of second image-capturing signals from which the frequency component has been removed, each in correspondence to a predefined position of the focus lens;
 - calculating a focus match lens position based upon one of a set of the integrating values of the first image-capturing signals and a set of the integrating values of the second image-capturing signals; and
 - determining a true/false decision with regard to a focus match position based upon a change manifested by the integrating values of the first image-capturing signals and a change manifested by the integrating values of the second image-capturing signals between predefined positions taken by the focus lens, wherein:
 - determining that the focus match position is a true focus match position when a ratio between; (a) the change manifested by the integrating values of the first image-capturing signals between a first lens position corresponding to a largest value among the integrating values of the first image-capturing signals and a second lens position next to the first lens position and (b) the change manifested by the integrating values of the second

image-capturing signals between the first lens position and the second lens position is equal to or greater than a preset determination threshold value.

15. (New) A method for capturing an image comprising:
 - capturing a subject image through a photographic lens;
 - removing a frequency component equal to or lower than a first frequency from image-capturing signals obtained at pixels corresponding to a focus area;
 - removing from the image-capturing signals a frequency component equal to or lower than a second frequency which is higher than the first frequency;
 - generating a lens drive signal used to move a focus lens;
 - calculating integrating values of first image-capturing signals from which the frequency component has been removed and integrating values of second image-capturing signals from which the frequency component has been removed, each in correspondence to a predefined position of the focus lens;
 - calculating a focus match lens position based upon one of a set of the integrating values of the first image-capturing signals and a set of the integrating values of the second image-capturing signals; and
 - determining a true/false decision with regard to a focus match position based upon a change manifested by the integrating values of the first image-capturing signals and a change manifested by the integrating values of the second image-capturing signals between predefined positions taken by the focus lens, wherein:
 - determining that the focus match position is a true focus match position when (A) the change manifested by the integrating values of the first image-capturing signals between a first lens position corresponding to a largest value among the integrating values of the first image-capturing signals and a second lens position next to the first lens position indicates a value equal to or greater than a predetermined value and (B) a ratio of the change

manifested by the integrating values of the first image-capturing signals between the first lens position and the second lens position and the change manifested by the integrating values of the second image-capturing signals between the first lens position and the second lens position is equal to or greater than a preset determination threshold value.

16. (New) A method for capturing an image comprising:
 - capturing a subject image through a photographic lens;
 - removing a frequency component equal to or lower than a first frequency from image-capturing signals obtained at pixels corresponding to a focus area;
 - removing from the image-capturing signals a frequency component equal to or lower than a second frequency which is higher than the first frequency;
 - generating a lens drive signal used to move a focus lens;
 - calculating integrating values of first image-capturing signals from which the frequency component has been removed and integrating values of second image-capturing signals from which the frequency component has been removed, each in correspondence to a predefined position of the focus lens;
 - calculating a focus match lens position based upon one of a set of the integrating values of the first image-capturing signals and a set of the integrating values of the second image-capturing signals; and
 - determining a true/false decision with regard to a focus match position based upon a change manifested by the integrating values of the first image-capturing signals and a change manifested by the integrating values of the second image-capturing signals between predefined positions taken by the focus lens, wherein:
 - determining that the focus match position is a false focus match position when
 - (1) the change manifested by the integrating values of the first image-capturing signals between a first lens position corresponding to a largest value among the integrating values of

the first image-capturing signals and a second lens position next to the first lens position indicates a value smaller than a first predetermined value and (2) the change manifested by the integrating values of the first image-capturing signals between the second lens position and a third lens position next to the second lens position indicates a value smaller than a second predetermined value which is greater than the first predetermined value.

17. (New) A method according to claim 14, wherein:

the first lens position corresponds to a closeup end of a range over which the focus lens is allowed to move.

18. (New) A method according to claim 15, wherein:

the first lens position corresponds to a closeup end of a range over which the focus lens is allowed to move.

19. (New) A method according to claim 16, wherein:

the first lens position corresponds to a closeup end of a range over which the focus lens is allowed to move.